

Exploratory Data Analysis (EDA) Report

Overview

This report summarizes the exploratory data analysis performed on the eCommerce dataset. The analysis aims to identify trends, patterns, and insights to help improve business strategies.

1. Data Cleaning

- Checked for missing values and inconsistencies.
- Converted date columns to datetime format.

2. Key Analyses and Insights

- **Customer Distribution by Region**: South America has the highest number of customers, making it a key market for targeted promotions.
- **Top Product Categories by Sales**: Electronics and Books are the top-performing categories, contributing the most to revenue.
- **Monthly Sales Trends**: Sales show seasonal peaks, indicating opportunities for promotional campaigns during high-demand periods.
- **Top Customers by Spending**: A small number of customers account for a significant portion of revenue, ideal for loyalty programs.
- **Product Pricing vs. Popularity**: Lower-priced products sell in higher quantities, highlighting price sensitivity in some customer segments.

3. Visualizations

- Customer distribution bar charts.
- Sales trends line charts.

- Scatter plots showing product popularity vs. pricing.

Conclusion

The analysis provides actionable insights for customer targeting, product focus, and strategic decision-making. By leveraging these insights, the business can enhance customer engagement and maximize revenue.